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REMARKS

This response is intended as a full and complete response to the non-final Office Action mailed January 20, 2004. In the Office Action, the Examiner notes that claims 1-24 are pending, of which claims 1-18 are rejected. By this amendment claims 2, 4-5, 10, and 14-15 have been amended, and claims 3, 6-9, 11-13, and 16-18 continue unamended.

In view of both the amendments presented above and the following discussion, Applicants submit that none of the claims now pending in the application are obvious under the provisions of 35 U.S.C. §103. Thus, Applicants believe that all of these claims are now in allowable form.

It is to be understood that the Applicants, by amending the claims, do not acquiesce to the Examiner's characterizations of the art of record or to applicants' subject matter recited in the pending claims. Further, Applicants are not acquiescing to the Examiner's statements as to the applicability of the art of record to the pending claims by filing the instant responsive amendments.

REJECTIONS

35 U.S.C. §103

Claims 2-18

The Examiner has rejected claims 2-18 as being obvious and unpatentable under the provisions of 35 U.S.C. §103(a). In particular, the Examiner has rejected claims 2-18 as being obvious over Kanai et al. (U.S. Patent 5,862,403, issued January 19, 1999, hereinafter "Kanai"). Applicants respectfully traverse the rejection.

Kanai fails to teach or disclose the storage server as recited in Applicants' independent claims 2 and 14. In particular, Applicants' independent claims 2 and 14 recite:

- "2. A scalable server, comprising:
a plurality of server modules, each of said server modules
comprising at least one plurality of storage devices respectively coupled to
at least one bi-directional loop, and a processor and a buffer adapted for
controlling said at least one plurality of storage devices;

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a cross bar switch coupled to said plurality of server modules, said server modules accepting data requests from a plurality of clients;

at least one server controller coupled to said processors of said plurality of server modules, said at least one server controller for routing control instructions from a head-end to a particular server module;

each of said server modules issuing data retrieval commands only to its associated plurality of storage devices; and

at least one data communications path coupled between the respective cross bar switches of each storage server, where any of said cross bar switches is capable of routing data from any one of said server modules to said clients requesting said data." (emphasis added).

"14. A method for providing data to a plurality of clients, comprising:
routing each of a plurality of client data requests to any of a plurality of server modules, each of said server modules having associated with it at least one plurality of storage devices respectively coupled to at least one bi-directional loop, and a processor and a buffer adapted for controlling said at least one plurality of storage devices, each plurality of storage devices providing data to clients via a crossbar switch, each crossbar switch serving each of the server modules within a storage server;

determining, which server module has associated with it a including requested data; and

routing to each of said clients, respective requested data via said crossbar switch." (emphasis added).

The test under 35 U.S.C. § 103 is not whether an improvement or a use set forth in a patent would have been obvious or non-obvious; rather the test is whether the claimed invention, considered as a whole, would have been obvious. Jones v. Hardy, 110 USPQ 1021, 1024 (Fed. Cir. 1984) (emphasis added). Thus, it is impermissible to focus either on the "gist" or "core" of the invention, Bausch & Lomb, Inc. v. Barnes-Hind/Hydrocurve, Inc., 230 USPQ 416, 420 (Fed. Cir. 1986) (emphasis added). Moreover, the invention as a whole is not restricted to the specific subject matter claimed, but also embraces its properties and the problem it solves. In re Wright, 6 USPQ 2d 1959, 1961 (Fed. Cir. 1988) (emphasis added). The Kanai reference fails to teach or suggest the Applicants' invention as a whole.

In particular, Kanai fails to teach, disclose, motivate, or suggest a plurality of server modules as defined and claimed by Applicants. Specifically, Kanai discloses a system that includes a plurality of data memory devices 2, n sets of data memory

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control devices 4-1 to 4-n, m sets of communication control devices 6-1 to 6-m, and nxm sets of buffer memory devices 8 (see Kanai FIG. 5, Col. 12, lines 11-27). The nxm sets of buffer memory forms a buffer memory matrix used to store blocks of data across all of the data memory devices, i.e., disk drives.

By contrast, Applicants' invention does not utilize a buffer memory matrix. Applicants claim a plurality of server modules. Each server module propagates either data packets or streams of data to the cross bar switch for distribution upon a request by a client. Specifically, Applicants have defined the server modules as comprising at least one plurality of storage devices respectively coupled to at least one bi-directional loop, and a processor and a buffer adapted for controlling said at least one plurality of storage devices (See Application, FIGS. 2 and 4). Thus, each server module includes a buffer for storing data from the plurality (array) of storage devices prior to delivery to the cross bar switch. Each of the at least one plurality of storage devices and corresponding buffers is independent from the storage devices and buffers from other server modules.

As such, Kanai is completely different from Applicants' claimed invention. In particular, Kanai discloses a buffer matrix that receives data for all the sets of disk drives, and then distributes portions of the data to a communications controller. In comparison, Applicants claim a single buffer per server module, a cross bar switch coupled to said server modules, and "each of the server modules issuing data retrieval commands only to the respective storage devices". Thereafter, the cross bar switch routes data from said server modules to said clients requesting said data. Thus, Kanai fails to teach or suggest a single buffer per server module and "each of the server modules issuing data retrieval commands only to the respective storage."

Moreover, the Kanai reference fails to teach or suggest the feature "at least one server controller coupled to said processors of said plurality of server modules, said at least one server controller for routing control instructions from a head-end to a particular server module." In particular, the Applicants' invention provides at least one server controller 204 forming an interface between the server (i.e., the internal private network 206) and a head end public network (HEPN) 202. the public network carries command and control signaling for the storage server 110 (see Applicants' specification page 5

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line 24 to page 6 line 16). Nowhere in the Kanai reference is there any teaching or suggestion of "at least one server controller for routing control instructions from a head-end to a particular server module." Therefore, the Kanai reference fails to teach or suggest the Applicants' invention as a whole.

As such, Applicants submit that independent claims 2 and 14 are not obvious from the teachings of the prior art and fully satisfy the requirements of 35 U.S.C. §103. Furthermore, claims 3-13 and 15-18 respectively depend from independent claims 2 and 14, and recite additional feature thereof. As such and for at least the same reasons discussed above, the Applicants submit that these dependent claims are not obvious and fully satisfy the requirements of 35 U.S.C. §103.

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CONCLUSION

Thus, Applicants submit that all of the claims presently in the application, are non-obvious under the provisions of 35 U.S.C. §103. Accordingly, both reconsideration of this application and its swift passage to issue are earnestly solicited.

If, however, the Examiner believes that there are any unresolved issues requiring adverse final action in any of the claims now pending in the application, it is requested that the Examiner telephone Eamon J. Wall, Esq. or Steven Hertzberg, Esq. at (732) 530-9404 so that appropriate arrangements can be made for resolving such issues as expeditiously as possible.

Respectfully submitted,

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